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TITLE: Turbo-machine rotor flaws
determn. - by applying
vibrational load to bearings
and measuring rotor natural
oscillation frequency in two
positions

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PATENT-ASSIGNEE: HEAT ENG RES INST[HEATR]

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BASIC-ABSTRACT:

Turbo-machine rotor defect determn. by applying
vibrational loads to the rotor
and measuring its vibration characteristic is
simplified and determn. of

defects is quicker for use in design projection and operation of turbo-machines, mainly steam turbines. The vibrational loads are applied at the bearings and the rotor natural oscillation frequency is used as the vibration characteristic.

The characteristic is measured at two or more set positions of the rotor and a defect is deemed to be present if a frequency difference occurs, long shutdown of the machine is no longer necessary.

On stopping the turbo-machine, the bearing is opened and the rotor raised to a height determined by the radial gap between the rotor and stator to apply the vibrational load. The rotor is then turned and the natural oscillation frequency measured at two points. The vibrational characteristic is independent of other factors, esp. variation of dynamic properties of parts of the stator. Bul.47/23.12.81. (2pp)

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